

## ABSTRACT

In a first embodiment, the present invention is a method of detecting an open secondary winding, including the steps of enabling an integrator, resetting the integrator, detecting an ionization current, integrating the ionization current over a spark window, comparing the integrated ionization current with a threshold, and setting an open secondary flag if the integrated ionization current is below the threshold. In another preferred embodiment, the invention is a method of detecting an open secondary winding by measuring spark duration including the steps of comparing an ionization signal with a first threshold, measuring the spark duration when the ionization signal is greater than the first threshold, comparing said spark duration with a second threshold, and setting an open secondary flag.

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